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TENTH ANNUAL CIRCULAR

OF

Quality Farm Seeds

FROM

GOLDEN GLOW FARM



Michels' Golden Glow Corn (Wis. No. 12)—See Page 6.

HENRY MICHELS, Prop.

Member Wisconsin Experiment Association

FOND DU LAC,

(Farm at Malone)

WISCONSIN

1919

Greetings.

I am opening up the season of 1919 in my new quarters at Fond du Lac. For the past nine years, I have been handling all my seeds in the buildings on the farm but owing to over-crowded conditions I have been obliged to look for a larger building to take care of the increasing business.

I still own and control GOLDEN GLOW FARM at Malone and will continue my breeding operations there as in the past. The seed corn dryer will be operated to capacity next fall and besides will dry a still greater quantity in my building here. There is no change made in the policy which I have been following consistently in past years and the removal to the new location will benefit the customer even more than it does me.

Here I have all my seeds under one large roof, with the best elevating, cleaning, scarifying, and grading machinery putting seeds into best possible condition for shipment to you with the least work and the least chance for mistakes. I have a nice office in the same building where the records are kept and from which to handle the correspondence which runs into the thousands of letters in a season. The building is close to the freight depots of the Chicago & North Western, Chicago, Milwaukee & St. Paul, and the Soo Line Railways and good pavements over which to haul so bad roads cannot interfere with the promptness with which I aim to get off all orders. The farm is four miles from Malone and the hauling had to be done in the spring of the year when roads are at their worst occasionally compelling delays when I most wanted to be prompt.

In my new location as in the old, my motto will be—LET THE CUSTOMER JUDGE.

My stock is exceptionally good this season, all seeds being of high quality, strong germination and strictly free from noxious weeds—in short, the kind of seed I am glad to send out subject to your approval and retest after you receive them. The supplies of most seeds are smaller this season than they have ever been before and there will be immense quantities of low grades offered, seeds that are poorly cleaned and full of weed seeds, but you will find none of them in my stock.

I want to take this opportunity to thank my hundreds of customers for their liberal patronage in the past. Also for their fine spirit of friendliness they have displayed, the kind words they have expressed in appreciation of my efforts, the absolute confidence they have placed in my word and the material assistance they have rendered by recommending me to their friends and neighbors. I want to assure each and everyone that I shall always do my very best to merit these favors. In all my dealings it is my policy to give the customer the kind of seed he can depend upon to produce a profitable crop even on the highest priced land, and to sell it under the most liberal guarantee that can be given. I am proud of the reputation I have earned for fair dealing and I could not afford to do anything which might cloud it in the least.

In closing, I want to invite everyone to come and inspect my seeds and get acquainted personally whenever the opportunity presents itself. I want you to feel free in your correspondence to ask any question you may wish regarding my seeds, their adaptability to your conditions, etc., as you have in the past. I make it my business not only to sell seeds, but to give my customers every help within my power in order that they may succeed with my goods.

The war is now happily over and the farmers deserve a large share of the credit for it. They will reap their rewards in the near future for the prospects are the brightest that have ever smiled upon the agricultural world.

Thanking you again and with the best of wishes for the future, I am ,

Sincerely yours,

HENRY MICHELS.

QUALITY FARM SEEDS FROM GOLDEN GLOW FARM.

GUARANTEE

I guarantee all seeds bought of me to prove perfectly satisfactory to the customer or they may be returned and I will cheerfully refund full amount paid with freight charges but will in no case be responsible for any greater sum. I want my customers to subject my seeds to the most severe tests. I invite retests by Experiment Stations, County Agents or anyone qualified to make them but can make no adjustments after seeds are planted as they are then beyond my control.

TERMS.

Terms are strictly cash with order or sight draft attached to bill of lading in which latter case an extra charge of 25c will be made to cover cost of collection.

SAMPLES.

I am glad to send free samples of any grains, clovers or grass seeds for inspection before buying. Owing to the large size of the kernel, small samples of corn are not satisfactory and I do not send them nor will sample ears be sent. The customer runs no risk in sending his order for seed of any kind without sample as he is fully protected by the liberal guarantee of "money back if not satisfied."

DAMAGE CLAIMS.

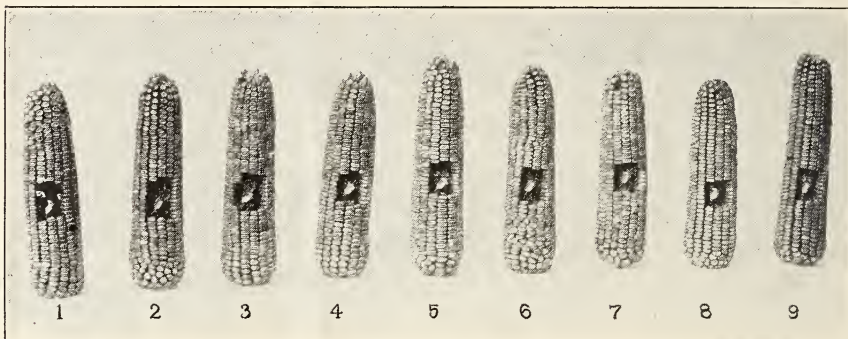
All seeds are delivered to the railroad in good condition. If bags are torn in shipment and some seed is lost, the railroads are responsible and will make good the loss if the shortage is noted on the freight receipt. Customers can file claims for damage with the agents at their home depots or if they prefer, they may send claims with freight receipts to me and I will take up the matter with the railroads.

BAGS.

Bags are charged extra at 60c each for all seeds except ear corn. Be sure to add their cost when making out your order. Figure 2½ bushels to the bag. Will ship in bags furnished by customer if preferred. Do not send burlap or jute bags as they are not fit to hold seeds for shipping. While the price of bags is very high this season, seeds also are high and very scarce and as I want my customers to get all the seed they pay for, I shall keep up the practice of shipping my seeds only in good cotton seamless bags, charging the customer less than wholesale price for them.

PRICES.

The market is constantly fluctuating and it is impossible to print prices in this catalogue that can be guaranteed for any great length of time. Special price lists will be printed from time to time as markets change. The latest list is enclosed herewith.



These ears of Golden Glow grown from seed furnished by The Experiment Station were used in my first breeding plot in 1909. Tests in the field proved No. 3 and No. 4 to be superior to the others. All of Michel's Golden Glow whether grown in Wisconsin or in neighboring states or in foreign countries is descended from these two ears. Reads the story of these ears printed below.

This picture shows some of the ears of Golden Glow corn that were used in my first breeding plot in 1909. They were grown from seed which I secured directly from the Wisconsin Experiment Station where this variety was developed by Prof. R. A. Moore and my seed was some of the first that was put out. Therefore this corn was as pure as any that could be had. But no corn is perfect and this corn was not perfect at that time nor can it ever be so though my ten years of breeding has effected a great improvement.

The ears shown are mighty fine specimens of corn—show ears. Yet beauty is only skin deep and no one could tell from the appearance of one of those ears whether it would produce ears like itself or whether a large percentage of its progeny would be seriously defective. The character of the offspring is determined by the "blood lines" in the veins of the parents. I like to talk of "blood lines" in corn just as the stock man talks of "blood lines" in his fancy cattle or horses, for they are present as surely in one as in the other. The same laws which govern the successful mating of live stock are manifested just as positively and in the same degree in the progeny of corn or any other plant.

The show ear of corn is a rarity. It is the result of a lucky combination of correct soil fertility, proper cultivation, perfect weather, faultless pollenization, and good breeding. As far as the individual ear is concerned, the breeding may have been one of the lesser factors for splendid ears are frequently found in very ordinary corn. The show ear is selected for its handsome visible qualities—symmetrical shape, uniform kernels, etc. Its hidden ability or inability to produce ears like itself in the next season's crop are not and cannot be calculated by any physical examination any more than an expert cattle judge can say when he awards prizes in the show ring, how many pounds of butterfat a cow can produce in a year. The only way he can determine this is by the use of the Babcock test and scales for a year, and the only way one can determine the producing qualities of an ear of corn is by putting it to a test in the field.

Let us come back to the corn shown in the picture. These ears are part of the seed that I used in my first breeding plot ten years ago. They were selected with great care and are really handsome. Note the symmetry and uniformity of the ears, straight rows, uniformity in shape, size, and depth of kernel—beautiful to look at. But "handsome is as handsome does" and each ear was valuable for seed only as it had inherited the ability to produce ears like itself. Look-

ing carefully at this corn, which ear would you select as the best seed ear—the one that would make you the most profitable crop? “Not much difference” you might say. But suppose you put each one to the test in the field as the dairyman tests his individual cows for a year to determine their real value. Suppose you planted each ear in a row by itself, watched them carefully during the growing season and calculated the yield in the fall; would the results be as uniform as the appearance of the seed ears would indicate? They would not, because the hidden inherited characteristics were not the same and this is really what determines the crop—not the fancy outward appearance of the seed ear.

This corn was all planted an ear in each row. The good ears yielded double what the poorer ones produced though they were planted side by side at the same time, had equal care, the same soil conditions, same rate of planting, etc. Most of the ears produced satisfactorily but in order to explain my point, I will speak of the results from some of the poorer ears. The row planted to Ear No. 1 had a marked tendency to throw out anywhere from three to six ears on every stalk, but of course, there were very few good ones. No. 6 was much more leafy than any of the others but it fell down in yield of ears. No. 8 made a very small growth of stalk which was particularly noticeable the latter part of the season. While it had the same chance as any of the others it was unable to make a vigorous growth. The poor showing was probably due to a light root development and the dry weather hit it hard. Of the good ears No. 3 and No. 4 were the most satisfactory yielding at the rate of 105 and 103 bushels per acre respectively. No. 5 yielded slightly more but was slower in maturing so no seed was saved from this row. The best ears from Nos. 3 and 4 were in the next season's breeding plot being planted side by side in alternating rows and the No. 4 crossed on No. 3 by detasselling all of the No. 3 rows, thereby preventing inbreeding.

This ear-to-the-row breeding has been kept up on Golden Glow Farm ever since then, always saving seed from the earliest and highest producing rows until I have developed a strain of this variety that is recognized as distinctly my own and of which I am very proud. It is grown in every part of this state and has made good. The Michigan Crop Improvement Association finds it one of the earliest strains they have tested and are urging their members to grow it. Last season I shipped a large quantity of the seed to South Dakota to be grown for me on contract for seed purposes and it beat the other varieties grown there in yield and was much earlier. This is the story wherever it has been tried.

It will interest my customers to know that all the seed they have been buying of me in the past traces back directly to the two ears, No. 3 and No. 4, in my 1909 breeding plot. No. 3 is the female ancestor and No. 4 is the male.

These two ears are the foundation of Michels' Golden Glow and thousands, perhaps millions, of bushels of Golden Glow in every state where the variety is grown are descended from them. It has made friends all over the northern edge of the corn belt because it combines earliness with a high yield both for grain and for silage. It is in greater demand every year as it becomes more highly developed and more widely known and while I have done my utmost to increase the output of seed the supply has never been equal to the demand. It has made good because it is bred to make good.

Now suppose that in 1909, instead of planting each ear in a row by itself, I had done as nearly all farmers do—shelled them, mixed them up and planted in a general field. The moment the seed is mixed every ear loses its identity never to be regained. There would be no chance to cull out the ears with low producing characteristics because all trace of them is lost. Even the poorest yielding ears will produce some fine seed ears and the best ears will yield a percentage of inferior stock. Therefore, when corn is planted in this hit or miss way, there is no guide by which one could make an intelligent selection of seed in the fall for the next season's work. Some seed would be saved from the low producing ears as well as from the good ones and no matter how long this might be kept up there could never be any material improvement in a variety.

QUALITY FARM SEEDS FROM GOLDEN GLOW FARM.

MICHELS' GOLDEN GLOW CORN (WIS. NO. 12).

Golden Glow is the most popular corn in the state today and it is rapidly finding its place in other states of like climate to which it is adapted—Michigan, Minnesota, The Dakotas, etc. Its immense popularity is due to its high yielding qualities which it combines with early maturity to a greater degree than any other variety ever developed. It is especially noted for its ability to adapt itself to conditions different from those under which it had been previously grown. This is no doubt due to the fact that it is a cross bred variety possessing plenty of vitality rather than being a closely inbred strain. Inbred corn like inbred cattle, loses its ruggedness—constitution.

Golden Glow is as popular in Southern Wisconsin as any corn. The farmer in the north central parts is enthusiastic over it. It outyields other early varieties on the heavier clay soils. It is second to none in the sandy regions. I took a large quantity of the seed to Salem, South Dakota last spring to be grown for me on contract for seed purposes. The corn had never been grown there before, yet even in the first year it outyielded the most popular local varieties including Fulton's Yellow Dent, Dakota White Dent, Murdock's, etc., and the crop was far sounder. The corn tested only 15½% moisture after a few weeks of air drying while the native corn was running around 22% to 25% and a great deal of it spoiled during the warm January weather. When I took this corn from the growers they told me that it was entirely unnecessary to kiln dry it as it was already seed corn, but my policy is to take no chances and every bushel was dried by artificial heat and forced ventilation.

The Golden Glow variety was originated by Prof. R. A. Moore of The University of Wisconsin. Prof. Moore is one of the greatest men the state has ever known. His work in standardizing the farm crops of the state and in breeding new varieties has added millions of dollars to the value of Wisconsin farm crops, and has attracted the attention of the entire world. But of all his achievements, his development of Golden Glow corn stands out as his masterpiece. Golden Glow has played an important part in raising Wisconsin to the top notch in the production of corn per acre among the great corn producing states. And, by the way, perhaps some people do not yet know that the records of The United States Department of Agriculture show that in 1918, Wisconsin averaged 40.5 bushels of corn per acre, a larger yield than any other corn state. Illinois and Iowa, commonly thought of as being head and shoulders above all others trailed along behind Wisconsin with yields of 35.5 and 36 bushels respectively. How is that for our old Badger State?

All of my Golden Glow has been bred by the ear-to-the-row method for ten years as explained in the preceding chapter. Every bushel is kiln dried by artificial heat and forced ventilation insuring high germination and strong healthy plants.

HOME GROWN GOLDEN GLOW.

This is corn that has been produced from my own seed either on my own farm or upon approved neighboring farms where I know that it is kept pure. This corn is so well known that there is no need to say much about it except that this season's offering measures fully up to the standard of former years. It has been cured in my big dryer with furnace heat and ventilation forced by engine driven fans. It is bone-dry, hard as a brick. This is the kind of seed that can be depended upon.

DAKOTA GROWN GOLDEN GLOW.

In the fall of 1917, I spent the month of November in South Dakota. I was much impressed by their splendid fall weather. After mid-summer, they get practically no rain and the fall is very dry. Corn is one of the principal crops, carload after carload being shipped to the markets from every little town. The

QUALITY FARM SEEDS FROM GOLDEN GLOW FARM.

ordinary market corn is exceptionally sound. The stalks are seldom out as there are few silos. The common practice is to leave the corn on the standing stalk for a few weeks after it has matured before husking begins. The dry winds which constantly blow there quickly whip open the husks so that the ear is as fully exposed to the wind as seed corn that has been hung out and it dries out very thoroughly. When husking begins in October, the corn is dry enough to shell readily. In fact, a great deal of it is hauled direct from the field to the elevator where it is shelled and shipped to market. Farmers in Dakota do not know what kiln dried seed corn is. They never give the matter of seed for the next year any thought but simply go to the crib in the spring and select what they want for planting.

It occurred to me that here was the ideal place to get good seed corn. Corn is practically dry as seed when husked and it is easy to buy it because it is grown there as a cash crop.

In Wisconsin, conditions are vastly different. When our corn harvest begins, the fall rains also begin. Corn dries out very little in the open air and most of the moisture must be removed by artificial means which are expensive. In my ten years of experience of drying home grown seed corn the average shrinkage has been 40%. Forty pounds of water in every one hundred pounds of seed corn that must be evaporated. My Dakota grown stock tested only 15½% moisture when it was taken to the kiln this fall. Furthermore, Wisconsin corn is grown largely for silage and practically none is usually husked until silos are filled and plowing well out of the way. Even then it is husked out of shocks where it has had little chance to dry. This means that I have to pay my growers a big premium to induce them to get out the corn early and even then I have never been able to get as much as I needed.

Last spring, I contracted with 18 of the best farmers close around Salem, South Dakota, to grow seed corn for me from Wisconsin Grown seed which I furnished. Salem is exactly as far north as Fond du Lac, Wis., so there can be no objection that the corn is southern grown. It is one of the finest farming districts in Dakota and corn is the principal crop. The seed I furnished these people was my choicest kiln dried stock, bred ear-to-the-row for ten years as explained on a preceding page. During the season the crop was closely watched by the county agent and he frequently reported to me. According to his testimony, it attracted a great deal of attention from everyone who saw it because of its splendid, vigorous growth. This fall when the corn was thoroughly air-dried I personally went to Dakota to supervise the sorting and shelling of this corn. As soon as it was shelled I shipped it to Minneapolis where I had made arrangements with one of the largest grain companies to dry it in their kiln, temperature and ventilation to be regulated strictly according to my direction. Shelled corn is dried much easier than ear corn as the moisture has not so far to travel. The cuts shown herewith clearly show how the process is accomplished by forcing warm air through the corn by powerful fans.

There is no reason why seed that has been grown in Wisconsin for years if sent to Dakota and grown there for only one season is not as good to plant here in Wisconsin as the Wisconsin grown stock. It is grown from the same seed stock as my home grown corn, is kiln dried and I can sell it at a dollar a bushel less because it costs me that much less to produce. The saving is effected by the smaller premium I have to pay my growers, the lighter shrinkage in drying and the smaller expense of drying. I do not hesitate to recommend this corn highly to my customers.



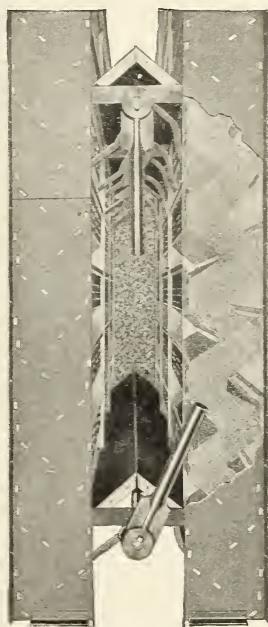
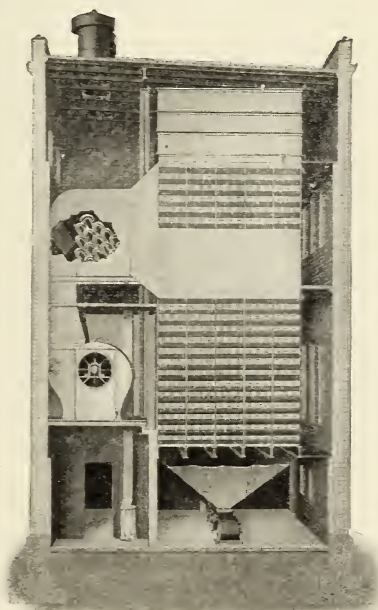
A sample of Dakota grown Wisconsin No. 8. Note the large, well formed ears.
The kernel is deep and shells out a high percentage.

DAKOTA GROWN WISCONSIN NO. 8.

This is a strain of corn which I found in Dakota in 1917. It has been grown near Mitchell, South Dakota, (same latitude as Fond du Lac) for several years by a man who is a corn expert. He bought his seed in Wisconsin and has been selecting for a deeper kernel and larger ear and certainly has accomplished it. This is some of the prettiest corn I have ever seen. It has a splendid uniform type and large sound ears. I brought a considerable quantity of this corn back with me in 1917 and it was the finest Dakota grown seed I had last year. I watched it closely the past season and it certainly delivered the goods. Through a bank, I placed a considerable quantity of this seed around Neillsville in Clark Co., Wis. Another large lot around Green Bay. Smaller quantities were planted in various parts of the state and the growers spoke so highly of it that this season when I was in Dakota, I bought a little over 1,000 bushels from the same man who supplied it to me last year. It is just as good stock as last year, well matured, sound and kiln dried. This No. 8 is a much heavier yielder than the No. 8 found in this state though it is also a little later. It is somewhat larger and later than my Golden Glow and I recommend it for cribbing purposes in South Central Wisconsin or in any locality where Silver King can be successfully grown. Coming originally from Wisconsin, it is now a much better corn than when it left the state.

HOME GROWN NORTHWESTERN DENT.

This corn is known also as Smoky Dent. The seed from which my stock was grown was bred by Prof. Waldron of North Dakota and was developed especially to ripen in the exceedingly short season and cool nights of that state. This corn will not yield nearly as heavily as my Golden Glow or No. 8 but it is much earlier and can be safely planted in the northern part of the state. The ear of Northwestern Dent is tapering and a grader will not do good work on that kind of corn so I do not grade butts and tips out I do with the other varieties. This corn was grown in Fond du Lac Co. and was cured in my big dryer.



Kiln Drying Shelled Corn

THE HESS DRYER.

The cut at the left shows the installation of the complete dryer. Note fan and heating coils at the side. Corn is fed in at the top, dropping on the racks shown at right. Here it is freely exposed to powerful blast of air forced through by the centrifugal fan. This air first travels through the steam coils, warming and drying it thoroughly.

QUALITY FARM SEEDS FROM GOLDEN GLOW FARM.

SOY BEANS

Soy beans were brought to this country from Japan. The best farmers of Wisconsin have been growing them a long time and would not do without them. Drilled in with corn they promote a richer growth of the corn besides yielding a tremendous amount of fodder which is harvested along with the corn without extra work. They greatly increase the yield of silage besides making it much richer in protein, the element silage most lacks and which costs most in feeds that are purchased. They make an unexcelled hog pasture, hogs eating both plant and bean making splendid gains on small acreage. Cut for hay, they are as rich as alfalfa and as they produce a crop the same year as planted are a life saver for the stockman who faces a serious loss when his clover has been winter killed. They flourish on land that is too sour for alfalfa or clover. They are a sure crop, almost drought proof, heavy yielders, a high protein feed, and great soil builders.

The Agricultural College strongly urges farmers to plant more soy beans. They feel that sooner or later they will be grown as a regular crop on every farm and the sooner the better.

Mr. E. L. Luther, Superintendent of Farm Institutes in Wisconsin is especially anxious that soy beans be talked at every farm institute in the state. Recently he sent out a letter to his workers which is so short and to the point that it is reprinted below with his permission:—

CIRCULAR LETTER TO INSTITUTE WORKERS.

By Mr. E. L. Luther, Superintendent.

THE DAIRYMEN'S WONDER PLANT.

**Never Plant Soy Beans Without First Inoculating the Seed or the Soil
With the Proper Soy Bean Bacteria.**

Planted in rows from 24 to 26 inches apart, soy beans can be cultivated, weeds kept down and the soil kept moist. They will then make a wonderful crop.

Plowed under they will enrich the soil and fill the soil with nitrogen, the most expensive fertilizer. Doubly large crops will follow.

They may be cut for hay when the plant reaches its greatest growth. A fairly good growth will yield about two tons of hay per acre.

They may be cut and ensiled with corn.

They may be let mature for seed. From ten to twenty bushels of seed should be secured from an acre. The price in ordinary times was around \$2 a bushel; now \$5 or \$6. A paying crop.

Hogs turned onto a patch will make from \$50 to \$100 worth of pork to the acre at present prices with no work on the part of the farmer to harvest the beans. Then the succeeding crop on that patch will be a big one.

Ground soy beans are nearly equal to oil meal in feeding value. The dairy farmer must find a way to avoid buying so much high priced protein feed.

Drought does not hurt them as much as it does other hays.

Planted after the last frost in the spring they will mature before the September frost.

They may be planted with corn.

They are a fine pleasing crop to watch grow.

They are a great crop especially for light soils.

Clover and alfalfa being unreliable on account of winter-killing, clover being often hard hit by droughts, the soy bean may with greatest assurance, be relied upon to produce a crop equal to either in feeding and nearly equal to either in fertility value.

QUALITY FARM SEEDS FROM GOLDEN GLOW FARM.

DO DAIRY CATTLE LIKE SOY BEANS?

On the Asylum farm in Portage county the straw from threshed beans was used for bedding the cows. Pretty soon the cows were observed to leave the hay in their mangers and to be eating the bedding. Bean straw was then placed in the mangers and hay under the cows to the entire satisfaction of the cows. Yes, cows like soy beans.

Soy beans will fix in the soil from 75 pounds to 100 pounds of nitrogen an acre each year the crop is grown. At twenty-five cents a pound this means \$18.75 to \$25 an acre of fertilizer.

Geo. F. Comings reports drawing in thirty-six loads from three acres. This was an enormous yield of forage.

\$5 will buy a bushel of soy beans and grow twelve tons of forage, carrying 660 pounds of protein.

\$60 will buy one ton of gluten feed containing 500 pounds of protein.

Thus it is seen that one is paid pretty liberally for his work upon a crop of soy beans.

WISCONSIN EARLY BLACK.

This is distinctly a Wisconsin variety. It is one of the earliest maturing strains in cultivation ripening with great certainty even in the extreme northern part of the state. It is a heavy yielder of threshed beans making it a desirable variety to grow for seed and for grinding for cattle or hogs. Ground soy beans are fully equal to oil meal for feeding purposes. They are a splendid crop to grow for hog pasture making the cheapest grains with the least work. Hogs are very fond of them eating both leaf and bean and they are especially valuable for shoats being high in protein or muscle building elements. They should be grown on every farm. Plant at corn planting time and turn in the hogs the latter part of August when all other pastures are dry and corn is not yet ripe. The Early Black ripen too early to be planted in the corn for silage as the beans will shatter.

ITO SAN.

This variety grows more rank than the Early Black and is the kind to plant for hay or silage. Soy bean hay is equal to alfalfa and cattle are very fond of it. It is a sure crop, produces hay the same year sown and is therefore valuable to take the place of clover when the latter has been killed out. Ito Sans grow tall and heavy. They ripen a little later than corn in central or northern Wisconsin and are great to drill in with corn for silage using 1-3 soy beans to 2-3 corn. They greatly increase the production per acre and make silage of better quality being fully 50% richer in protein than corn alone. Ito Sans will mature in southern Wisconsin.

MAMMOTH YELLOW.

This is a southern grown variety. They make an immense yield of forage and are recommended for planting with corn in southern or central Wisconsin. They are very late and never mature in this state. It is a question whether they should be recommended for hay as they reach the cutting stage so late in the season that it is sometimes difficult to cure them. But in corn they stay green long, make a bigger yield than any other variety and are recommended as far north as central Wisconsin.

INOCULATION.

Soy beans will not make a full crop the first time they are sown on ground unless they are inoculated with the proper bacteria. The operation is very simple and The College of Agriculture supplies the culture at cost to residents of Wisconsin—25c per acre. I will be glad to furnish it at cost to any customers in Wisconsin. Outside the state, I can furnish the cultures put up by commercial laboratories at \$1.00 per acre. Do not run the risk of failure by not inoculating the seed.

GRIMM ALFALFA.

State wide tests made by the Alfalfa Order on 160 farms in all parts of the state have shown Grimm alfalfa to be much harder than common seed. In these tests, Grimm was sown in the same fields right alongside common seed, both Montana grown and Kansas grown. The different varieties were all given exactly the same care and during the first season showed up equally good. But the winter of 1916 which was a very severe one took its toll. When the 160 farmers sent in their reports the vast majority said that their common seed had killed out so badly that the fields had to be plowed up while the Grimm came through strong and vigorous and produced a big crop. The same results were obtained at The Wisconsin Experiment Station Farm. In 1914 sixteen plots were seeded. Some of these were planted with common seed coming from Montana, Dakota, Nebraska, and Kansas. One of the plots was seeded with common Montana alfalfa which had been grown on a field said to be 37 years old. Four of the plots were planted with variegated seed, two Grimm and two Baltic. The stand was good on all of the sixteen plots and in 1915 they yielded almost equal amounts of hay. But after the winter of 1916 had made its raid, the hardness of the variegated seed was clearly apparent. Common Montana killed out 78% while Grimm only six feet away came through without apparent injury and yielded double the amount of weed free hay. The Baltic yielded as well as the Grimm, but owing to the high price asked for the seed, there is no advantage in sowing it.

It is not definitely known why Grimm alfalfa is harder. A great many claims are made for it such as a branching root system, low crown, etc., but it is impossible to say whether its hardness is due to these characteristics or to some quality not yet discovered. Until we have some positive proof to offer on the matter, it is perhaps best to leave guessing alone. It is enough to know that it is harder, that a great many tests have proven it so, and the results in the field are more convincing than any theories that may be advanced.

The chief concern is to get genuine seed. No expert can distinguish between Grimm and common seed and in buying it, we must depend to a large extent upon the integrity of the man with whom we are dealing. I have received samples from dozens of growers. The prices they ask range from 25c per pound to 75c, yet all insist that their seed is genuine Grimm. After very careful investigation, I bought two lots of seed that I am convinced are genuine. One of these lots was bought through the Idaho Experiment Station at Aberdeen, Idaho. The superintendent of the station is well acquainted with the man who raised this seed and he is familiar with the fields upon which it grew. He furnished me an affidavit saying that the fields had an abundance of variegated blossoms and other visible characteristics of the variety and that to the best of his knowledge and belief the seed is genuine Grimm. In addition to this, I have an affidavit from the grower stating that the seed is genuine, unadulterated Grimm and he furnishes me a sworn record of the seed from the time it was grown on the original fields of Grimm in Carver Co., Minn., by Mr. A. B. Lyman who introduced this variety. The other lot was produced by Dr. W. M. Williams, Harlem, Mont. Montana has a special law under which fields of alfalfa that have been proven to be absolutely genuine Grimm are registered. Thus far, Dr. Williams' fields are the only ones in Montana that come up to the strict requirements of this law. Both of these lots are exceptionally fine seed, strictly free from harmful weed seed and are backed up by such abundant proof that there is no question that the seed is genuine.

Grimm alfalfa has the reputation of stooling more than common alfalfa and for this reason does not require as much seed per acre. According to Prof. Graber, 12 to 15 pounds of Grimm is sufficient to seed an acre while of the common seed, 20 pounds is recommended. When this saving is taken into consideration there is but a slight difference in the cost of seeding and certainly the extra hardness of the crop should pay this over and over. At present prices, Grimm alfalfa costs but little more than red clover and when you are offered seed like this you can

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make no mistake in getting a supply. Genuine Grimm alfalfa cannot be bought in the open market as can the common seed and after these lots are exhausted, I cannot offer any more, so send in your order early.

COMMON ALFALFA.

Alfalfa is about the lowest priced seed that the farmer can buy this season and a great deal more will be sown than in years past. Where land has good drainage and is sweet (or limed if sour) alfalfa is the most profitable hay crop that can be grown. It is a heavy yielder, the very best feed and a field once established need not be reseeded for several years. Besides it is a wonderful soil builder and a field that has been in alfalfa will yield bigger crops of corn and grain after it has been plowed up than it did before. While clover is selling at the highest price on record, alfalfa is practically the same as other years. I have a splendid stock of both Kansas and Montana grown seed, plump, bright, and strictly free from noxious weed seeds. I wish all who read this catalog, might see this seed. It is the kind of stock of which I can feel justly proud. Experiments show that there is no difference in hardiness whether the seed is grown in Kansas or Montana so I recommend the Kansas stock as it is a trifle lower in price though I am glad to furnish Montana seed to those who desire it. Be sure to get my samples before buying elsewhere.

ALFALFA INOCULATION.

Unless you have grown alfalfa before, you must inoculate the seed you sow with the proper bacteria to insure success. To customers in Wisconsin, I will supply at cost, cultures made at The College of Agriculture. Their price is 25c per acre. Write for prices if you live outside this state.

GRAINS.

Owing to lack of storage room the past few years, I have been unable to handle any seed grains. This season in my larger quarters, I am again in a position to furnish my customers clean, plump, pedigree grains, free from noxious weed seeds thoroughly fanned, ready to sow. In offering grains it is not my purpose to list dozens of varieties in the hope that I can induce customers to buy one or the other. For every given set of conditions there can be but one best variety. The College of Agriculture through thousands of tests made by members of The Experiment Association in every part of the state has determined these best varieties and they are the only ones I consider worth listing. No claim is made for them that they will yield 300 or 400 bushels to the acre but they do show substantial increases over ordinary varieties—enough to materially increase the profits from the farm. They are the result of twenty years of patient, scientific breeding by Prof. Moore starting from single plants. They are not put out under fancy names which are changed from year to year to make them sell better, but are strictly standardized varieties, bred for production and they will produce in abundance.

KHERSON OR SIXTY DAY OATS.

This is a short straw, small kernel variety not very attractive on first sight but they do deliver the goods in the field. They are extremely early, ripening about the same time as barley or perhaps a few days earlier. They produce a very stiff straw and will stand up better than any other variety of oats ever developed. This is one of their most valuable characteristics as in many localities farmers have been obliged to discontinue the growing of oats because of lodg-

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ing. Kherson oats will stand up and mature naturally while the long straw varieties go down and produce chaffy grain. On account of their earliness, they often escape the heavy dews and hot sun which cause rust in ordinary oats during the last few days of the growing period. They are equal to barley as a nurse crop because of the short straw. On my farm all of the grain is sown as a nurse crop with alfalfa and I have sown this variety exclusively for a number of years. The surprising thing about them is that they are marvelous yielders. At the Experiment Station they have outyielded all other varieties for several years. Crops of over 100 bushels per acre have been reported by farmers though on our farm we do not seem to get any such phenomenal yields as are often reported. This variety has long been popular in Iowa and they are fast coming into prominence in Wisconsin. Within a few years they will be grown to a great extent. My stock was raised on Golden Glow Farm and is strictly high class.

WIS. PEDIGREE NO. 1 OATS

This is an oat developed by Prof. Moore at Madison especially for clay soils. It is a heavy yielder and has a high feeding value. The straw is very stiff and the oats will stand up under very unfavorable conditions though not quite equal to Kherson in this respect. In yield they cannot be beaten when sown on land to which they are adapted. They are the best oats to sow on the moderately rich soils of the state and are very popular with those who have tried them. My stock was grown in Fond du Lac County by a member of the Experiment Association, is clean from weeds, heavy and choice seed in every way.

WIS. PEDIGREE NO. 5 OATS.

This also is a variety developed by Prof. Moore who has done so much to bring Wisconsin into the lead in the production of her farm crops. No. 5 is pedigreed from the Swedish Select and it possesses many of the characteristics of that variety though 15 years of close breeding have effected a great improvement. It has a vigorous root system which enables it to withstand drought. This variety is particularly adapted to the lighter soils of the state and land that is low in fertility. On that type of soil it will outyield any other variety. My stock of this is as fine seed as can be had.

MARQUIS WHEAT.

Responding to the call of the Food Administration, Wisconsin last year doubled her acreage of wheat. The crop yielded bountifully and farmers have come to realize that with our newer system of farming we can again raise wheat at a profit. Because of the guaranteed price for the crop of 1919 and the relatively lower prices for other grains, wheat will again be largely sown this season. The College recommends Marquis wheat as the best spring wheat for Wisconsin. It is in fact, the favorite all over the wheat belt. Introduced from Canada where it was developed, it is now grown much more generally than any other variety. It is an exceptionally heavy yielder, frequently running better than forty bushels to the acre. It is earlier than most wheat and seems to resist rust better. It is in great demand by the millers. If you are going to sow wheat this spring, you cannot afford to sow any other variety. My stock is very bright, plump, and excellent in every way.

PEDIGREE BARLEY.

This is another of Prof. Moore's creations, the one that has brought him more fame than any other variety of grain he has produced. It is a vigorous grower, very stiff straw and fine plump berry. It runs higher in protein than other bar-

ley making it a better feed. This is important in view of the fact that no more barley will be used for malting purposes. This, however, should not discourage farmers from raising it as barley is one of the best feeds that can be grown on the farm. Experiments prove it equal to corn, pound for pound, and it is essential to pork production especially in the northern latitudes where ripe corn is an uncertainty. Anyway, the brewers never paid any fancy prices for barley, quoting only just high enough to keep farmers from feeding it. It is particularly desirable that the barley acreage be kept up this season especially in those localities where it seems to be at home. Pedigree barley will increase your yield at least five bushels per acre and you cannot afford to sow any other kind. My Pedigree barley was raised in Fond du Lac County, one of the best barley raising districts in the world.

CLOVERS AND GRASSES.

Fond du Lac is in one of the best clover seed producing districts in the country. Red Clover and alsike seed are grown here in great quantity and carload after carload is sent to the market each season. I have, therefore, a fine chance to select the finest lots free from noxious weeds. My cleaner is of the best make, driven by electric motor insuring uniform speed and all seed is thoroughly cleaned, light and shrunken seeds being blown out. The crop this year was very light all over the country and prices are the highest on record. This has led many unscrupulous dealers to put out seed which is low in grade or worse still, adulterated with cheaper seed. Mr. E. L. Luther, Supt. of Farmers' Institutes, reports one instance of a dealer who mixed 25% of low grade alfalfa with red clover seed. My customers know that my seed is not of that kind. Everything is pure, unadulterated, as well cleaned as in former years and strictly O. K. all around. All of my seeds are labelled to comply with the state seed law. But the best assurance I can give you is to tell you that your order does not bind you in any way. If on receipt of seed or after a retest by any Experiment Station or other laboratory you feel that you are not getting full value for your money you will do me a favor to return the seed and you will receive not only the amount you paid for seed but freight charges both ways besides. It makes no difference whether you received a sample or not before ordering, my seed is guaranteed to prove all you expect it to be or it is not your seed.

MEDIUM RED CLOVER grown in this district is in demand all over the country. It is hardy northern grown stock and is entirely free from buckhorn, the most common pest in red clover. The crop this season was short but the quality is excellent, as good as ever grown here. I have a large stock and invite inquiries from farmers' clubs, county agents, and others purchasing in quantity as well as small orders from individual farmers.

MAMMOTH CLOVER resembles red clover but grows larger and coarser. It is especially recommended for light sandy soils. It withstands drought better than red clover and adds more humus and nitrogen to the soil when plowed under. My stock is small but of fine quality.

ALSIKE is well adapted to low fields where red clover is likely to kill out. It can stand more soil acidity also. It does not freeze out and seldom fails, so a quantity should be mixed with all seeding for pasture. It makes the best hay that can be grown on wet land. My seed is free from thistle, quack or other harmful weed seed.

CLOVER, ALSIKE, AND TIMOTHY MIXED. This is a great mixture to sow for pasture or hay and low in price.

SWEET CLOVER of the white blossom variety is the crop for run down land. It will thrive where other varieties fail and quickly rebuilds the land so that fine crops of corn and grain can be grown. It is a fine pasture plant as it recovers quickly after being eaten off and stays green long during the summer. Add a few

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pounds of this seed to your pasture mixture and increase your milk flow. I have some exceptionally fine stock which I have scarified to bring the germination to a very high percentage. Unscarified sweet clover, Grimm alfalfa and a few other seeds usually contain a high percentage of seeds which have such an impervious seed coat that they cannot absorb water to sprout. Scarifying scratches the seed coat permitting moisture to enter.

TIMOTHY is the hardest field seed to buy because there is so very little of it that is entirely free from noxious weed seeds. However, I recommend my stock to the most critical buyer as I have never seen finer seed. The price of timothy is very reasonable this season.

RED TOP is a valuable grass, both for hay and pasture. It makes a big yield of good feed and succeeds well on low land.

DWARF ESSEX RAPE is a crop that is widely grown. It is used mainly for pasturage and is especially valuable for hogs and sheep. It is rich feed and a sure crop producing pastures within a few weeks after it is sown. Can be sown alone almost any time in the season. 2 pounds to the acre sown after the grain is about up, will provide fine pasture after harvest. Can be sown in corn with the last cultivation. My seed is strictly free from mustard or bird rape.

If interested in any field seed you do not find listed, write me about it. I am in touch with sources of good seed all over the country and can supply you with high grade seed at as low a price as anyone.



A Field of Michels' Golden Glow.
Good breeding and high vitality of seed are evident.